

beyond what such digital environments, and products and services, could otherwise provide.

Examples of such systems could be based on one or more dynamically evolving repositories of user value judgments and navigational pointers that identify the most valuable information available in digital environments of various sizes. For discussion purposes, let us call these Value Locator Repositories, or VLR's. In a generalized instantiation these VLR's could be available on-line and on demand as a dial-in service. In an instantiation that is integrated with the software tools one uses to do work, there could be dynamic links between such a VLR(s) and those tools (where those tools may be enabled for communications with VLR's, or such VLR's may be attached or built into such tools) so that the appropriate pointers to support information from throughout the appropriate digital environment would be displayed automatically at appropriate moments during one's work and users could link to any particular source in one step, regardless of its location worldwide); etc. In a local instantiation, the pointers to a local or product-based VLR(s) could be built into a software application (such as a spreadsheet), a product (such as a medical monitor) or a service (such as a time-sharing computer system) to provide direct access to repositories of content, how-to and other "performance enhancing" information for the product's users in a particular business work group, organization, professional association, users of a particular vendor's product, etc.

By means of this invention, such Value Locator Repositories (VLRs) could dynamically and actively (1) prompt users to contribute additional new learning based on their experiences, and (2) report to users the valuable functions and content discovered by other users of that digital environment. The VLR's would be rapidly adjusted, by either automated or manual means (or both) to reflect recent user experiences and thus reveal what users currently judge to be the most valuable and important information, functions and operations in this environment. Those value, navigation and performance access, along with prompting to continuously learn the value of those pointers to new users and thereby evolve those recommendations, would then be updated in a dynamic learning system(s) throughout the digital environment(s). This accelerated evolution could take place on a dial-in basis, while users work with any tool capable of displaying such information, or in other ways.

For discussion purposes, let us call one such VLR a "VLR Server" and describe it as if such a VLR Server operated as a free service on the Internet. In this example, personal, organizational or societal "Value Location" might be offered as a continuous service that evaluates the value of the enormous and rapidly expanding base of information available throughout the Internet, along with direct navigational access to it. In practice, there may be multiple VLR Servers in a digital environment; their characteristics and operations may be considerably more flexible than the example described here; and they may be embedded in or attached to other types of systems, organizations and business processes to provide specialized types of Value Location for particular types of users; in addition to the particular instantiation described here. Turning to FIG. 34A, a user logs on to the VLR Server 1170 to locate addresses of valuable information sources along with descriptions of them 1172. These descriptions would display the rankings, comments and ratings of the environment's information resources based on prior uses of them 1194. While logged on the user could use an information source by linking directly to it (e.g., immediately following the navigational pointer to it provided by the VLR Server) 1174, or the user could download one or

more VLR addresses and descriptions to a holding "corral" or other local repository on the user's own system 1174. If the user employed any of the VLR Server's pointers while logged in 1176, appropriate CB-PD Module interactions would be run immediately 1178, 1180.

Alternatively, the user could download one or more of the VLR Server's pointers and descriptions 1182 to a local corral on the user's system 1184. During this download the user would receive a "mobile" CB-PD Module that would be stored on the user's system 1184 (such as in the corral of VLR choices). In this latter case, the user could turn to this local corral at any time 1202 to learn whether appropriate resources are available for a particular task. If not, the user may exit this corral 1206. If the user selects a choice in the corral 1204 the mobile CB-PD Module is "attached" to the user's actions with those "value locations" and related uses of the digital environment (as described in the preferred embodiment). Based on the user's actions, at appropriate trigger events CB-PD Module interactions are run 1208 to learn the user's assessments of the information resources found, and the user's suggestions for improving the listing in the VLR Server 1210. While this may be as simple as a value assessment (a subjective ranking of the value of each information resource) and/or a frequency assessment (a quantitative count of how often a particular information resource is accessed, a spectrum of metrics may also be employed. These could include metrics such as:

- Cost (of particular information sources and why users chose to pay those prices, or why they did not buy),
- Productivity (how long users took to select appropriate information resources, whether those turned out to be desirable resources, and correlations between specific presentation styles and the productivity achieved in using the digital environment),
- Performance (user ratings of the value to them of the content of each information source on their performance, with an automated rating based on the number of "jumps" users make, the percentage of "hits" compared to the number of sources examined, and the length of time spent examining each source),
- Errors (the ease of accessing each information source, and the particular difficulties encountered during use),
- User recommended metrics (such as assessments of relevance, value, support for achieving precise objectives, etc.),
- Features and functions (such as the best ways others found to employ the environment, the software, the product, etc.),
- Etc.

At the same time, users could provide assessments of the CB-PD Module system 1212 to improve (1) the style and presentation of the digital environment's information resources, so the environment's resources may be made clearer and more accessible, and (2) the ways the CB-PD Module tracks user behavior and interacts with users to learn from them while they are traversing and using the digital environment, so that its own learning system may be improved 1214.

This learning would be communicated to the VLR Server by two-way communications as described in the preferred embodiment. These communications could occur when the user logs on to the VLR Server 1216; by having the mobile CB-PD Module on the user's system "wake up" at specified intervals (as described in the preferred embodiment) to ask permission to send in the data provided by the user and stored on the user's local system; etc. If permitted by the user, the user's assessments are uploaded to the VLR Server